IN THE CLAIMS

1. (Original) A method for providing quality of service (QoS)-driven channel access within a basic service set (BSS) in a wireless network, the method comprising steps of:

sending a contention control (CC) frame from a point coordinator (PC) station of the BSS, the CC frame containing information relating to a number of available centralized contention opportunities (CCOs) for receiving a reservation request (RR) in a centralized contention interval (CCI) following the CC frame, the CC frame further containing information relating to the identification of stations from which a RR was successfully received by the PC station in a preceding CCI, the CC frame being sent by the PC station during a contention-free period (CFP) of a superframe, the superframe including a contention-free period (CFP) and a contention period (CP);

receiving the CC frame at a non-PC station in the BSS;

sending an RR in a selected one of the available CCOs in the CCI in response to the received CC frame, the RR being sent from the non-PC station when the non-PC station has a burst of data frames to send, and the RR indicating an amount of bandwidth requested by the non-PC station sending the RR for transmitting the burst;

receiving the RR frame at the PC-station in one of the CCOs of the CCI;

sending a multipoll frame from the PC station containing information relating to at least two transmission opportunities (TOs) assigned to at least one non-PC station in the BSS for data transmission;

receiving the multipoll frame at at least one non-PC station in the BSS; and

sending at least one data frame in respective TOs from each non-PC station that is identified in the multipoll frame in response to the received multipoll frame.

2. (Original) The method according to claim 1, wherein the at least one data frame sent by a non-PC station in response to a TO originates from one of a continuous/periodic flow type of traffic source, a discontinuous/bursty flow type of traffic source, and a best-effort/asynchronous traffic source,

the method further comprising a step of periodically allocating at least one TO for each non-PC station having a continuous/periodic flow type of traffic source based on at least one QoS parameter value maintained within the PC station.

3. (Original) The method according to claim 1, wherein the burst of data frames for which a RR is sent by a non-PC station originates from one of a discontinuous/bursty flow type of traffic source and a best-effort/asynchronous traffic source;

the method further comprising steps of:

allocating at least one TO for each non-PC station having a discontinuous/bursty flow type of traffic source based on at least one QoS parameter value maintained within the PC station upon an indication by the non-PC station, via a RR, of a new bursty arrival originating from a discontinuous/bursty flow type of traffic source at the non-PC station, and

allocating at least one TO for each non-PC station having a best-effort/asynchronous traffic source on a best-effort basis upon an indication by the non-PC station, via a RR, of a new bursty arrival originating from a best-effort/asynchronous traffic source at the non-PC station.

4. (Original) The method according to claim 1, wherein the information contained in the multipoll frame further includes information relating to a length of each TO.

5. (Original) The method according to claim 1, further comprising a step of scheduling transmission of down-stream traffic from the PC station and to at least one selected non-PC station in the BSS.

6. (Original) The method according to claim 1, wherein the wireless network is a wireless local area network (WLAN).

7. (Original) A system for providing quality of service (QoS)-driven channel access within a basic service set (BSS) in a wireless network, the system comprising:

a point coordinator (PC) station within the BSS sending a contention control (CC) frame, the CC frame containing information relating to a number of available centralized contention opportunities (CCOs) for receiving a reservation request (RR) in a centralized contention interval (CCI) following the CC frame, the CC frame further containing information relating to the identification of stations from which an RR was successfully received by the PC station in a preceding CCI, the CC frame being sent by the PC station during a contention-free period (CFP) of a superframe, the superframe including a contention-free period (CFP) and a contention period (CP); and

at least one non-PC station receiving the CC frame at a non-PC station in the BSS, a non-PC station sending an RR in a selected one of the available CCOs in the CCI in response to the received CC frame, each RR being sent when the corresponding non-PC station has a burst of data frames to send, each RR indicating an amount of bandwidth requested by the non-PC station sending the RR for transmitting the burst.

8. (Original) The system according to claim 7, wherein the PC station receives the RR frame at the PC-station in one of the CCOs of the CCI, and

wherein the PC station sends a multipoll frame containing information relating to at least two transmission opportunities (TOs) assigned to at least one non-PC station in the BSS for data transmission.

9. (Original) The system according to claim 8, wherein at least one non-PC station in the BSS identified in the multipoll frame receives the multipoll frame, and sends at least one data frame in at least one of the TOs that are identified in the multipoll frame.

10. (Original) The system according to claim 9, wherein the at least one data frame sent by a non-PC station in response to a TO originates from one of a continuous/periodic flow type of traffic source, a discontinuous/bursty flow type of traffic source, and a best-effort/asynchronous traffic source,

wherein the PC station periodically allocates at least one TO for each non-PC station having a continuous/periodic flow type of traffic source based on at least one QoS parameter value maintained within the PC station.

11. (Original) The system according to claim 7, wherein the burst of data frames for which an RR is sent by a non-PC station originates from one of a discontinuous/bursty flow type of traffic source and a best-effort/asynchronous traffic source;

wherein the PC station allocates at least one TO for each non-PC station having a discontinuous/bursty flow type of traffic source based on at least one QoS parameter value maintained within the PC station upon an indication by the non-PC station, via an RR, of a new bursty arrival originating from a discontinuous/bursty flow type of traffic source at the non-PC station, and wherein the PC station allocates at least one TO for each non-PC station having a best-effort/asynchronous traffic source on a best-effort basis upon an indication by the non-PC station, via an RR, of a new bursty arrival originating from a best-effort/asynchronous traffic source at the non-PC station.

12. (Original) The system according to claim 9, wherein the information contained in the multipoll frame further includes information relating to a length of each TO.

13. (Original) The system according to claim 7, wherein the PC station schedules transmission of down-stream traffic from the PC station and to at least one selected non-PC station in the BSS.

14. (Original) The system according to claim 7, wherein the wireless network is a wireless local area network (WLAN).

15. (Original) A method for providing quality of service (QoS)-driven channel access within a basic service set (BSS) in a wireless network, the method comprising steps of:

sending a contention control (CC) frame from a point coordinator (PC) station of the BSS, the CC frame containing information relating to a number of available centralized

contention opportunities (CCOs) for receiving a reservation request (RR) in a centralized contention interval (CCI) following the CC frame, the CC frame further containing information relating to the identification of stations from which an RR was successfully received by the PC station in a preceding CCI, the CC frame being sent by the PC station during a contention-free period (CFP) of a superframe, the superframe including a contention-free period (CFP) and a contention period (CP); and

receiving an RR frame at the PC station in one of the CCOs of the CCI, the RR being sent in a selected one of the available CCOs in the CCI in response to the received CC frame, the RR being sent from the non-PC station when the non-PC station has a burst of data frames to send, and the RR indicating an amount of bandwidth requested by the non-PC station sending the RR for transmitting the burst.

16. (Original) The method according to claim 15, further comprising a step of sending a multipoll frame from the PC station containing information relating to at least two transmission opportunities (TOs) assigned to at least one non-PC station in the BSS for data transmission.

17. (Original) The method according to claim 16, wherein the information contained in the multipoll frame further includes information relating to a length of each TO.

18. (Original) The method according to claim 15, wherein the burst of data frames for which an RR is sent by a non-PC station originates from one of a discontinuous/bursty flow type of traffic source and a best-effort/asynchronous traffic source,

the method further comprising steps of:

periodically allocating at least one TO for each non-PC station having one of a continuous/periodic flow type of traffic source and a discontinuous/bursty flow type of traffic source based on at least one QoS parameter value maintained within the PC station,

allocating at least one TO for each non-PC station having a discontinuous/bursty flow type of traffic source based on at least one QoS parameter value maintained within the PC station upon an indication by the non-PC station, via an RR, of a new bursty arrival originating from a discontinuous/bursty flow type of traffic source at the non-PC station, and

allocating at least one TO for each non-PC station having a best-effort/asynchronous traffic source on a best-effort basis upon an indication by the non-PC station, via an RR, of a new bursty arrival originating from a best-effort/asynchronous traffic source at the non-PC station.

19. (Original) The method according to claim 15, further comprising a step of scheduling transmission of down-stream traffic from the PC station and to at least one selected non-PC station in the BSS.

20. (Original) The method according to claim 15, wherein the wireless network is a wireless local area network (WLAN).

21. (Original) A method for providing quality of service (QoS)-driven channel access within a basic service set (BSS) in a wireless network, the method comprising steps of:

receiving a contention control (CC) frame at a non-PC station in the BSS, the CC frame being sent from a point coordinator (PC) station of the BSS, the CC frame containing information relating to a number of available centralized contention opportunities (CCOs) for receiving a reservation request (RR) in a centralized contention interval (CCI) following the CC frame, the CC frame further containing information relating to the identification of stations from which an RR was successfully received by the PC station in a preceding CCI, the CC frame being sent by the PC station during a contention-free period (CFP) of a superframe, the superframe including a contention-free period (CFP) and a contention period (CP); and

sending an RR in a selected one of the available CCOs in the CCI in response to the received CC frame, the RR being sent from the non-PC station when the non-PC station has a burst of data frames to send, the RR indicating an amount of bandwidth requested by the non-PC station sending the RR for transmitting the burst.

22. (Original) The method according to claim 21, further comprising steps of:

receiving a multipoll frame at at least one non-PC station in the BSS, the multipoll frame being sent from the PC station and containing information relating to at least two

transmission opportunities (TOs) assigned to at least one non-PC station in the BSS for data transmission; and

sending at least one data frame in respective TOs from each non-PC station that is identified in the multipoll frame in response to the received multipoll frame.

23. (Original) The method according to claim 22, wherein the at least one data frame sent by a non-PC station originates from one of a continuous/periodic flow type of traffic source, a discontinuous/bursty flow type of traffic source, and a best-effort/asynchronous traffic source.

24. (Original) The method according to claim 21, wherein the burst of data frames for which an RR is sent by a non-PC station originates from one of a discontinuous/bursty flow type of traffic source and a best-effort/asynchronous traffic source.

25. (Original) The method according to claim 21, wherein the wireless network is a wireless local area network (WLAN).